

SECTION INDEX 2 – CPR RANGES

A comprehensive range of boxed reed relays in only two case sizes. In addition to the standard Form A, B and C dry reed relays, mercury wetted Form A and C types are also available. Most recent additions include latching and current operated types.

Types Available

Page 8 CPR1/A to CPR4/D Form A, dry reed relays

Coloured range, economy type. Contact arrangement 1 to 4 pole. Coil voltages from 6 to 30Vdc

Page 9 CPR1/E to CPR4/H, CPR1/J Form A, dry reed relays

Grey range, high grade type. Contact arrangements 1 to 4 pole. Coil voltages from 5 to 30Vdc

Page 10 CPR1/K to CPR4/N Form A, mercury wetted relays

Contact arrangements 1 to 4 pole. Coil voltages 6 to 30Vdc

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Dimensions and base connections for above relays

Page 12 CCPR1/E to CCPR1/J Form C, dry reed relays

Single pole only. Coil voltages from 5 to 30Vdc

Page 13 CCPR1/K to CCPR1/N Form C, mercury wetted relays

Single pole only. Coil voltages from 6 to 30Vdc

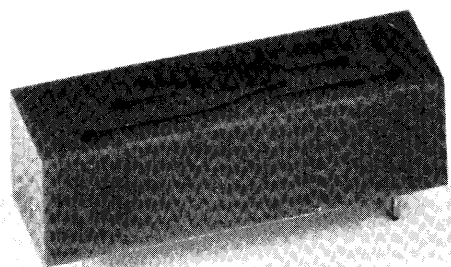
Page 14 CPR1/O to CPR1/Q Form B, dry reed relays

Single pole only. Coil voltages from 6 to 30Vdc

Page 15 CRM/E to CRM/J Latching relay, dry reed relays

Single pole Form A only. Coil voltages from 6 to 30Vdc

CPR (COLOURED RANGE)



Form A, Dry Reed Relays

An inexpensive range of Reed Relays with versatile contact arrangements but employing only two sizes of case. The relays are housed in epoxy filled nylon cases. The relay type and pin connections are moulded on the top of the relay case and all connections are brought out to solder coated pins for printed circuit mounting.

Contact Data

Switching Power max.	5W	Breakdown Voltage min.	350Vdc
Switching Current max.	0.2A	Contact Capacitance max.	2.0pF
Switching Voltage max.	50Vdc	Initial Contact Resistance max.	150 m Ohms
Life	Dry Switching 5×10^7 operations. Switching 100mA at 50V — 5×10^6 operations		

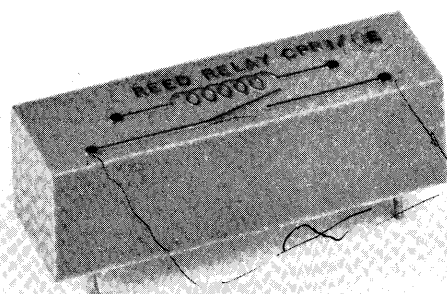
Additional Data

Operate Time max.	1.0 m Secs	
Release Time max.	0.5 m Secs	
Insulation Resistance	Coil to Contact min.	10 ¹⁰ Ohms
Insulation Resistance	Contact to Contact min.	10 ¹⁰ Ohms
Dielectric Strength	Coil to Contact min.	2kV
Dielectric Strength	Contact to Contact min.	500V
Climatic	Epoxy filled for operation over the temperature range 0°C to 70°C at the rated voltages	

Coil Data

Type	Body Colour	Coil Volts	Coil Power (mW)	Coil Resistance ($\pm 10\%$)	Maximum must operate voltage	Minimum must release voltage
CPR1/A	Red	18 to 30	110 to 300	3.0k Ω	14	3.5
CPR1/B	White	12 to 18	85 to 190	1.7k Ω	10	2.0
CPR1/C	Blue	9 to 12	80 to 145	1.0k Ω	7	1.5
CPR1/D	Green	6 to 9	50 to 115	700 Ω	4.7	1.0
CPR2/A	Red	18 to 30	220 to 600	1.5k Ω	14	3.5
CPR2/B	White	12 to 18	144 to 325	1k Ω	10	2.0
CPR2/C	Blue	9 to 12	230 to 410	350 Ω	7	1.5
CPR2/D	Green	6 to 9	144 to 325	250 Ω	4.7	1.0
CPR3/A	Red	18 to 30	295 to 820	1.1k Ω	14	3.5
CPR3/B	White	12 to 18	240 to 540	600 Ω	10	2.0
CPR3/C	Blue	9 to 12	325 to 575	250 Ω	7	1.5
CPR3/D	Green	6 to 9	240 to 540	150 Ω	4.7	1.0
CPR4/A	Red	18 to 30	360 to 1000	900 Ω	14	3.5
CPR4/B	White	12 to 18	410 to 925	350 Ω	10	2.0
CPR4/C	Blue	9 to 12	325 to 575	250 Ω	7	1.5
CPR4/D	Green	6 to 9	240 to 540	150 Ω	4.7	1.0

Slide on shields (magnetic screens) are available for all types in the CPR range, add suffix "M" to type number, e.g. CPR1/D/M.

**Form A, Dry Reed Relays**

These relays are of identical construction to the coloured range shown on page 8, but feature reed switches of a higher grade providing both greater switching power and longer life.

Contact Data

Switching Power max.	10W	Breakdown Voltage min.	250Vdc
Switching Current max.	0.5A	Contact Capacitance max.	2.0pF
Switching Voltage max.	<u>200Vdc</u>	Initial Contact Resistance max.	150 m Ohms
Life	Dry Switching 1×10^9 operations. Switching 100mA at 50V — 1×10^8 operations		

Additional Data

Operate Time max.	1.0 m Secs	
Release Time max.	0.5 m Secs	
Insulation Resistance	Coil to Contact min.	1 × 10 ¹⁰ Ohms
Insulation Resistance	Contact to Contact min.	1 × 10 ¹⁰ Ohms
Dielectric Strength	Coil to Contact min.	2000V
Dielectric Strength	Contact to Contact min.	500V
Climatic	Epoxy filled for operation over the temperature range 0°C to 70°C at the rated voltages	

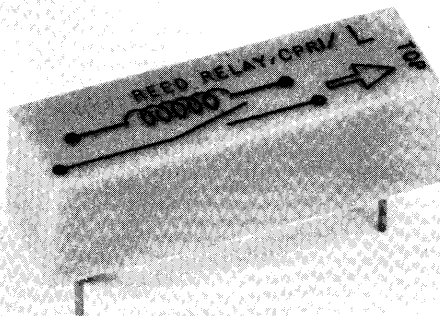
Coil Data

Type	Body Colour	Coil Volts	Coil Power (mW)	Coil Resistance ($\pm 10\%$)	Maximum must operate voltage	Minimum must release voltage
CPR1/E	Grey	18 to 30	110 to 300	3.0k Ω	14	3.5
CPR1/F	Grey	12 to 18	85 to 190	1.7k Ω	10	2.0
CPR1/G	Grey	9 to 12	80 to 145	1.0k Ω	7	1.5
CPR1/H	Grey	6 to 9	50 to 115	700 Ω	4.7	1.0
CPR1/J ★	Black	5	25 <i>5mA</i>	1k Ω	3.7	0.5
CPR2/E	Grey	18 to 30	220 to 600	1.5k Ω	14	3.5
CPR2/F	Grey	12 to 18	144 to 325	1k Ω	10	2.0
CPR2/G	Grey	9 to 12	230 to 410	350 Ω	7	1.5
CPR2/H	Grey	6 to 9	144 to 325	250 Ω	4.7	1.0
CPR3/E	Grey	18 to 30	295 to 820	1.1k Ω	14	3.5
CPR3/F	Grey	12 to 18	240 to 540	600 Ω	10	2.0
CPR3/G	Grey	9 to 12	325 to 575	250 Ω	7	1.5
CPR3/H	Grey	6 to 9	240 to 540	150 Ω	4.7	1.0
CPR4/E	Grey	18 to 30	360 to 1000	900 Ω	14	3.5
CPR4/F	Grey	12 to 18	410 to 925	350 Ω	10	2.0
CPR4/G	Grey	9 to 12	325 to 575	250 Ω	7	1.5
CPR4/H	Grey	6 to 9	240 to 540	150 Ω	4.7	1.0

Slide on shields (magnetic screens) are available for all types in the CPR range, add suffix "M" to type number, e.g. CPR1/F/M.

★ For 5V logic circuit applications.

CPR



Form A, Mercury Wetted Reed Relays

These relays with mercury wetted contacts have a low and stable contact resistance (approximately 70 m Ohms); They can switch higher power and current than dry contacts and have freedom from contact bounce. The relays are housed in epoxy filled nylon cases.

Contact Data

Switching Power max.	50W	Contact Capacitance max.	2.0pF
Switching Current max.	2.0A	Initial Contact Resistance max.	70 m Ohms
Switching Voltage max.	500Vdc	Life	Better than 1×10^8 operations
Breakdown Voltage min.	1000Vdc		

Additional Data

Operate Time max.	3.0 m Secs		
Release Time max.	2.5 m Secs		
Insulation Resistance	Coil to Contact min.	1×10^9 Ohms	
Insulation Resistance	Contact to Contact min.	1×10^9 Ohms	
Dielectric Strength	Coil to Contact min.	2000V	
Dielectric Strength	Contact to Contact min.	500V	
Climatic	Epoxy filled for operation over the temperature range 0°C to 70°C at the rated coil voltages		

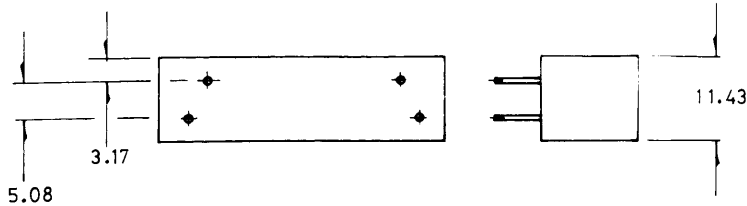
Coil Data

Type	Body Colour	Coil Volts	Coil Resistance ($\pm 10\%$)	Coil Power (mW)	Maximum must operate voltage	Minimum must release voltage
CPR1/K	Yellow	18 to 30	1.7k Ω	190 to 530	14	3.5
CPR1/L	Yellow	12 to 18	1.0k Ω	144 to 324	10	2.0
CPR1/M	Yellow	9 to 12	650 Ω	116 to 205	7	1.5
CPR1/N	Yellow	6 to 9	250 Ω	144 to 324	4.7	1.0
CPR2/K	Yellow	18 to 30	1.0k Ω	324 to 900	14	3.5
CPR2/L	Yellow	12 to 18	350 Ω	410 to 930	10	2.0
CPR2/M	Yellow	9 to 12	250 Ω	324 to 576	7	1.5
CPR2/N	Yellow	6 to 9	150 Ω	240 to 540	4.7	1.0
CPR3/K	Yellow	18 to 30	600 Ω	540 to 1500	14	3.5
CPR3/L	Yellow	12 to 18	250 Ω	576 to 1300	10	2.0
CPR3/M	Yellow	9 to 12	150 Ω	540 to 960	7	1.5
CPR3/N	Yellow	6 to 9	75 Ω	480 to 1080	4.7	1.0
CPR4/K	Yellow	18 to 30	350 Ω	925 to 2540	14	3.5
CPR4/L	Yellow	12 to 18	250 Ω	576 to 1300	10	2.0
CPR4/M	Yellow	9 to 12	150 Ω	540 to 960	7	1.5
CPR4/N	Yellow	6 to 9	75 Ω	480 to 1080	4.7	1.0

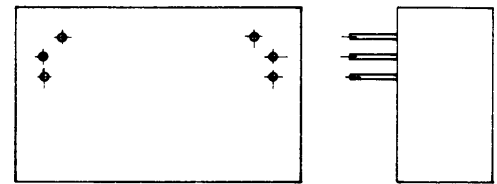
NOTE Relays must be mounted within 30° of the vertical, arrow (↑) upwards.

DIMENSIONS AND BASE CONNECTIONS

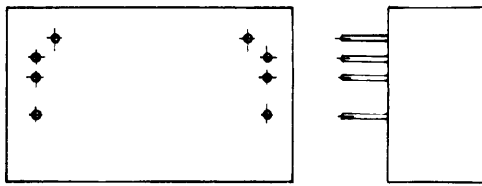
One Contact - CPR1 Range



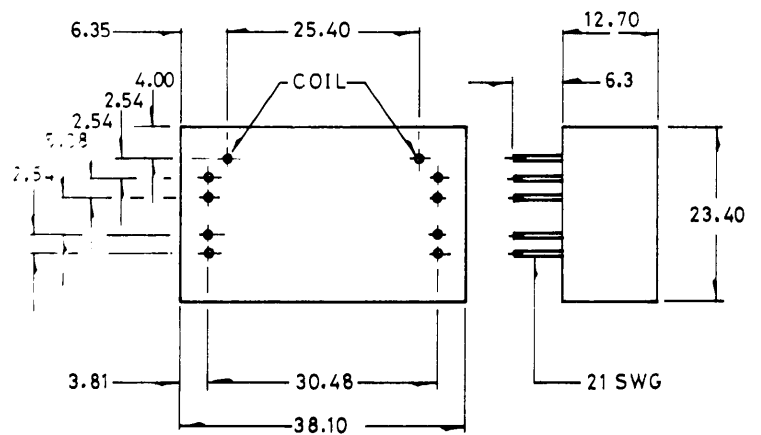
Two Contacts - CPR2 Range



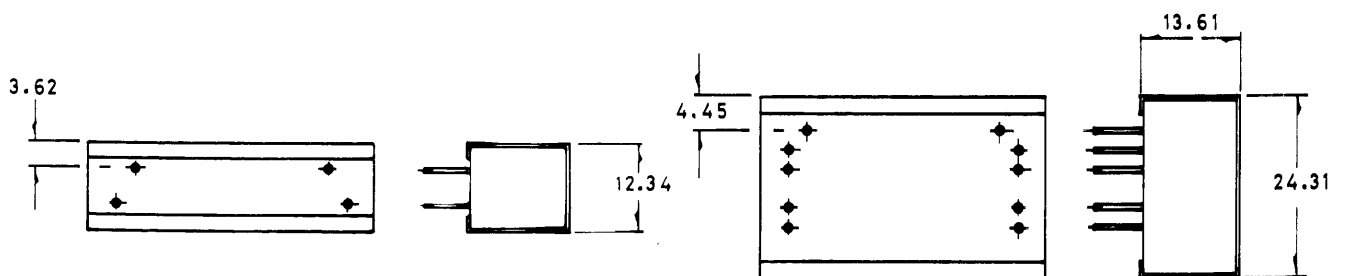
Three Contacts - CPR4 Range



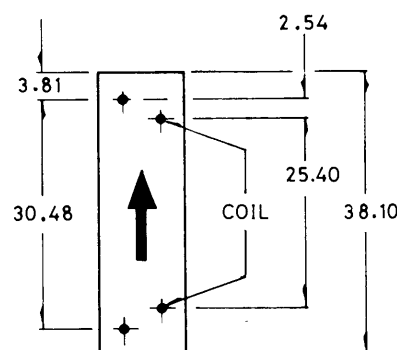
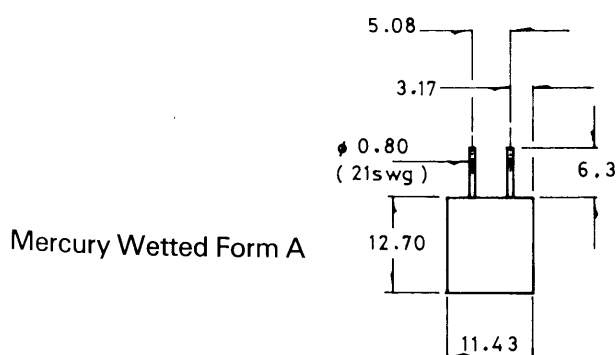
Four Contacts - CPR4 Range



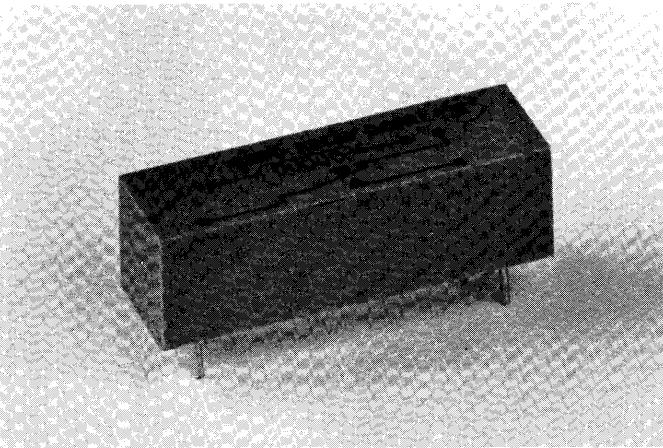
ALL ABOVE DIMENSIONS AS CPR4 RANGE EXCEPT WHERE SHOWN



ABOVE DIMENSIONS OF MAGNETICALLY SCREENED RELAYS SUFFIX M



CCPR1



Form C, Dry Reed Relays

The CCPR1 has a single pole Form C Reed Switch and is available in four basic coil voltages. In addition there is a low coil power version suitable for operation direct from logic. The relays are housed in epoxy filled nylon cases.

Contact Data

Switching Power max.	3W	Contact Capacitance max.	1.0pF
Switching Current max.	0.25A	Initial Contact Resistance max.	150 m Ohms
Switching Voltage max.	200Vdc	Life	Average 10 ⁶ operations
Breakdown Voltage min.	200Vdc		

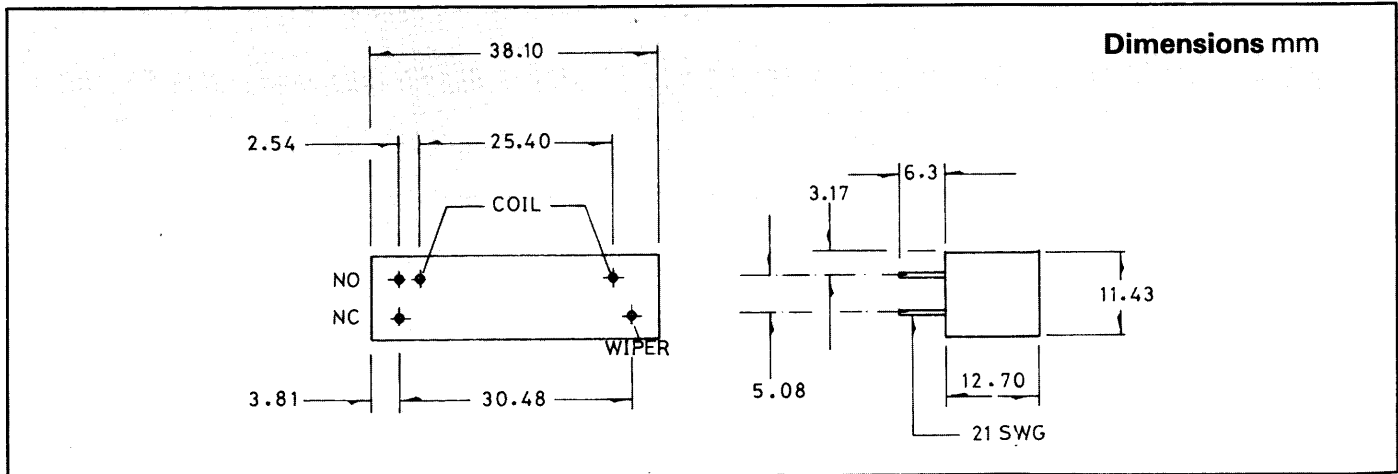
Additional Data

Operate Time max.	1.0 m Secs		
Release Time max.	0.5 m Secs		
Insulation Resistance	Coil to Contact min.	1 × 10 ⁹ Ohms	
Dielectric Strength	Coil to Contact min.	2000V	
Climatic	Epoxy filled for operation over the temperature range 0°C to 70°C at the rated coil voltages		

Coil Data

Type	Voltage range	Coil power mW	Coil resistance (±10%)	Maximum must operate voltage	Minimum must release voltage
CCPR1/E	18 to 30	110 to 300	3kΩ	14	3.5
CCPR1/F	12 to 18	85 to 190	1.7kΩ	10	2.0
CCPR1/G	9 to 12	80 to 144	1kΩ	7	1.5
CCPR1/H	6 to 9	50 to 115	700kΩ	4.7	1.0
CCPR1/J	5	25	1kΩ	3.7	0.5

Slide-on shields are available : add "/M" to the type number.



Form C, Mercury Wetted Reed Relays

This Form C Reed Relay in the CPR range uses a single pole mercury wetted reed switch that has a low stable contact resistance. The relay can switch higher power and current than one with a dry contact and is free of contact bounce. The relays are housed in epoxy resin filled nylon cases.



Contact Data

Switching Power max.	28W	Breakdown Voltage min.	1000Vdc
Switching Current max.	1.0A	Contact Capacitance max.	1pF
Switching Voltage max.	200Vdc	Initial Contact Resistance max.	70 m Ohms

Additional Data

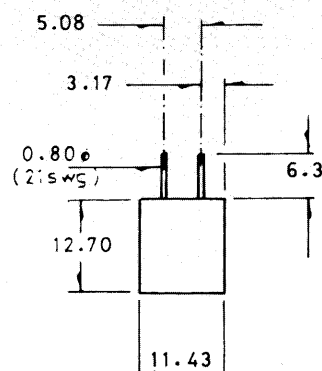
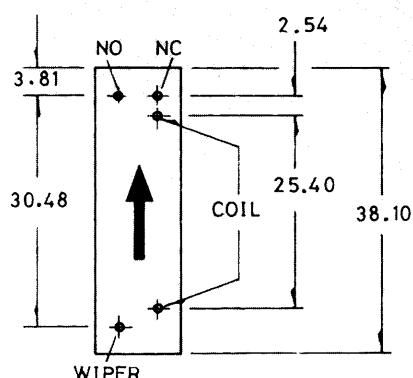
Operate Time max.	2 m Secs		
Release Time max.	1.5 m Secs		
Insulation Resistance	Coil to Contact min.	1×10^9 Ohms	
Insulation Resistance	Contact to Contact min.	1×10^8 Ohms	
Dielectric Strength	Coil to Contact min.	2000V	
Climatic	Sealed for operation over the temperature range 0°C to 70°C at the rated coil voltages		

Coil Data

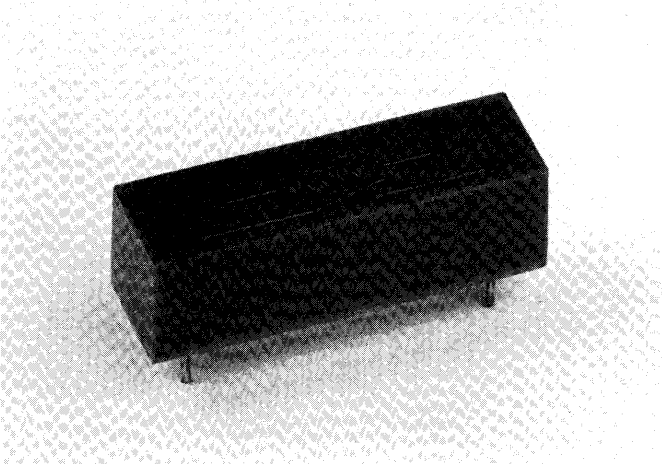
Type	Voltage range	Coil power mW	Coil resistance ($\pm 10\%$)	Maximum must operate voltage	Minimum must release voltage
CCPR1/K	18 to 30	231 to 643	1400 Ω	14	3.5
CCPR1/L	12 to 18	205 to 463	700 Ω	10	2.0
CCPR1/M	9 to 12	331 to 411	350 Ω	7	1.5
CCPR1/N	6 to 9	240 to 560	150 Ω	4.7	1.0

Slide-on shields are available: add "/M" to the type number.

Dimensions mm



CPR1



Form B, Dry Reed Relays

This range is limited to single pole contacts and is available in four basic coil voltages. The reed is held closed by means of a magnet and energising the coil cancels out the effect of the magnet, allowing the reed to open. As this configuration would be susceptible to external magnetic fields, the relay is magnetically screened internally as standard

Contact Data

Switching Power max.	10W	Contact Capacitance max.	2.0pF
Switching Current max.	0.5A	Initial Contact Resistance max.	200 m Ohms
Switching Voltage max.	100 Vdc	Life	Better than 1×10^8 operations
Breakdown Voltage min.	150 Vdc		

Additional Data

Operate Time max.	1.0 m Secs	
Release Time max.	0.5 m Secs	
Insulation Resistance	Coil to Contact min.	1×10^{10} Ohms
Dielectric Strength	Coil to Contact min.	500V
Climatic	Epoxy filled for operation over the temperature range 0°C to 70°C at the rated coil voltages	

Coil Data

Type	Voltage Range	Coil power mW	Coil resistance ($\pm 10\%$)	Maximum must operate voltage
CPR1/O	18 to 30	110 to 300	3k Ω	14
CPR1/P	12 to 18	85 to 190	1.7k Ω	10
CPR1/Q	9 to 12	80 to 145	1k Ω	7
CPR1/R	6 to 9	50 to 115	700 Ω	4.7

